Proceedings of the New York Entomological Society

(Meetings held in Room 129 of the American Museum of Natural History unless otherwise indicated).

Meeting of October 6, 1970

President Lee Herman presided; 18 members and 5 guests present. Proposed for Active Membership were: Mr. Charles Spielman of Chicago, Illinois, and Mr. George V. Kirk of Newark, Delaware.

PROGRAM. **Some Recent Studies on the Ecology and Behavior of Carrion Beetles.** Dr. Paul Shubeck, of the Department of Biology, Montclair State College studied carrion beetles found in the Hutcheson Memorial Forest, East Millstone, New Jersey. He found the following families of coleoptera on carrion: Silphidae, Leptodiridae, Histeridae and Staphylinidae.

Dr. Shubeck showed kodachromes of these beetles as well as the areas studied and the trapping methods used. He found that beyond a distance of 1 meter from a trap containing carrion, the orientation of the beetle was "random" in reference to eventually finding the carrion. He also presented data on diurnal and nocturnal behavior of the beetles.

The meeting was adjourned at 9:40 P.M.

DANIEL J. SULLIVAN, S.J., *Sec.*

Meeting of October 20, 1970

Vice-president Howard Topoff presided; 18 members and 6 guests were present.

Elected to Active Membership were Mr. Charles Spielman of Illinois and Mr. George V. Kirk of Delaware.

Proposed for Active Membership was Mr. Richard E. Gray of Enfield, New Hampshire.

Dr. Topoff explained that Dr. Harvey Barkey of the State University of Farmingdale, New York had been taken ill. His scheduled talk on "The Ecological Importance of Mites" will be postponed to a later date.

PROGRAM. **Preliminary Studies on the Phylogenetic Relationship Among Lice.** Mr. Frederick Miller showed slides of the scanning electron microscope which he uses in his work and then the tuft and pore organs on the antennae of various species of lice. Because of the magnification achieved it is now possible to include other diagnostic characters besides the traditional ones on the genital and sternal plates as the basis for species description. Mr. Miller feels that there is a strong possibility of a phylogenetic relationship existing between chewing lice being studied in England and the sucking lice being studied by him.

The meeting was adjourned at 9:20 P.M.

DANIEL J. SULLIVAN, S.J., *Sec.*

November 3, 1970—Election Day—No Meeting.

Meeting of November 17, 1970

President Lee Herman presided; 19 members and 35 guests were present.

Elected to Active membership was Mr. Richard E. Gray of Enfield, New Hampshire.

Proposed for Active Membership was Dr. Howard G. Sengbusch of the State University College at Buffalo, New York.

PROGRAM. **The World of Life.** Dr. Roman Vishniac said that he would show two films in connection with his talk. His interest in the process of evolution has occupied him for a life time and in order to illustrate his studies more effectively, has developed a unique photographic skill of portraying flora and fauna.

While narrating his films he explained the difficulties encountered where the organism is too large for a compound microscope and yet too small for the ordinary camera.

Dr. Vishniac answered questions at the conclusion of his remarks.

The meeting was adjourned at 9:40 P.M.

Daniel J. Sullivan, S.J., *Sec.*

Meeting of December 1, 1970

Vice-president Howard Topoff presided; 10 members and 9 guests were present.

Elected to Active Membership was Dr. Howard G. Sengbusch of the State University College at Bufallo, New York.

Dr. Topoff reminded the membership that at the next meeting, December 15th, there would be a discussion on the proposed changes in the By-Laws of the Society.

PROGRAM. **Spiders of Arizona.** Dr. John Cooke of the American Museum of Natural History studied the spiders in the area of the Southwestern Research Station in Portal, Arizona. He showed many excellent color slides of the insect fauna of the region.

The meeting was adjourned at 9:20 P.M.

Daniel J. Sullivan, S.J., *Sec.*

Meeting of December 15, 1970

Vice-president Howard Topoff presided; 16 members and 8 guests were present.

Proposed for Active Membership by Mr. J. Huberman were: Mr. Thomas G. Dow of Grandview, New York and Mr. Kenneth McNichol of Palisades, New York.

Proposed for Student Membership was Miss Gaye L. Williams of Bowie, Maryland.

Dr. Topoff led the discussion of the membership concerning changes in the By-laws suggested by the Executive Committee. All of the proposed changes were approved with the exception of the following two sections:

Article V, Section 5 concerned with who may authorize payment for expenses of guest speakers.

Article XII, Section 2 concerned with the Junior Entomological Society.

PROGRAM. **Recent Developments in Mosquito Biology.** Mr. Robert Lake explained that the Department of Entomology of the University of Delaware has had a mosquito control program since 1933. Although slides were shown of the stages of the Anophelines and Culicines, greater stress was placed upon the role of the *Aedes* mosquito in relation to the environment, e.g., salt marsh pools and borders, pitcher plants, tree-holes, rock-pools, cracked hydraulic fill-ins, artificial containers, etc.

From an ecological standpoint Mr. Lake recommended an integrated approach to mosquito control using various available methods plus coordination of wildlife and conservation agencies.

The meeting was adjourned at 10:05 P.M.

DANIEL J. SULLIVAN, S.J., *Sec.*

Meeting of January 5, 1971—The Annual Meeting

President Lee Herman presided: 15 members and 5 guests were present. Dr. Winifred Trakimas, Treasurer, explained that due to the incompleteness of the report from the bank concerned with the up-to-date accumulation of interest in the Society's account, a detailed report will be presented at a later date.

The Nominating Committee, consisting of Dr. Elsie Klots, Dr. John Cooke and Mr. Robert Buckbee, presented the list of candidates for the year 1971 as follows:

President—Lee Herman, Jr.	
Vice-president—Howard R. Topoff	
Secretary—Daniel J. Sullivan	
Asst. Secretary—Betty White	
Treasurer—Winifred Trakimas	
Asst. Treasurer—Patricia Vaurie	
Trustees—Class of 1972	Jerome Rozen, Jr. Frederick Miller
Publication Committee	Alexander B. Klots, Chairman Ahodyha P. Gupta Joan DeWind

There were no further nominations and upon motion made and duly seconded the Secretary was instructed to cast one ballot for the unanimous election of the above mentioned candidates.

Elected to Active Membership were: Mr. Thomas G. Dow of Grandview, New York and Mr. Kenneth McNichol of Palisades, New York.

Miss Gaye L. Williams of Bowie, Maryland was elected to Student Membership.

Sponsored by Mr. J. Huberman, the following were proposed for Active Membership: Dr. John P. Kramer of the Department of Entomology and Limnology, Cornell University, Ithaca, New York and Dr. Louis Handfield of Quebec, Canada. Mr. Robert Buckbee read the following resolution, approved by the Executive Committee:

Be it Resolved:

Over the years many persons have been elected to Honorary Membership in the New York and Brooklyn Societies. The Society now has six living Honorary Members:

Charles P. Alexander
SuZan Swain Firmage
Alexander B. Klots
Rowland R. McElvare
Asher Treat
Harry B. Weiss.

Although some of these are able to be with us with some regularity, others find it impossible, for good reasons, to attend our meetings.

So that all may know that our honoring of these members is not once voted and then forgotten, we think it is proper at this our Annual Meeting on January 5, 1971 to send affectionate greeting to each of these Honorary members; and we record this fact by sending a copy of this Resolution to each of them, and by recording it in our Journal.

That this was read and voted at this meeting, we certify

President Lee Herman
Secretary Daniel J. Sullivan

PROGRAM. **Problems of Urban Pest Control.** Dr. Arthur Brody of the Pioneer Exterminating Company emphasized the difficulties encountered in pest control. The problems are concerned not only with various techniques but especially with the ignorance of the people insofar as cleanliness, use of chemicals, etc. are concerned.

The meeting was adjourned at 9:40 P.M.

Daniel J. Sullivan, S.J., *Sec.*

Meeting of January 19, 1971

President Lee Herman presided; 17 members and 9 guests were present. Elected to Active Membership were Dr. John P. Kramer of the Department of Entomology and Limnology, Cornell University, Ithaca, New York and Dr. Louis Handfield of Quebec, Canada.

At the January 5th, 1971 meeting it was announced that special greetings were being sent to the six living Honorary Members of the Society. Two of these wrote letters of appreciation to the President. The letters from Charles P. Alexander of Amherst, Mass. and Harry B. Weiss of New Brunswick, N.J. were read at the meeting.

PROGRAM. **Ecological Role of Leaf-Cutting Ants.** Dr. Neal Weber of the Department of Biology, Swarthmore College illustrated his talk with color slides. The destructive aspect of their behavior becomes apparent in their competition with man for man's crops and man's domestic animals. However, certain benefits accrue from ant activity—i.e., aeration of the soil, removal of decaying or dead vegetation, turn-over of organic matter, etc. Dr. Weber discussed the relationship between ants and other animals especially the discoveries of various animals found in ant nests such as snakes, beetles, collembola, thysanura and lepidoptera. (An abstract follows).

The meeting was adjourned at 9:25 P.M.

Daniel J. Sullivan, S.J., *Sec.*

THE ECOLOGICAL ROLE OF THE LEAF-CUTTING ANTS, *ACROMYRMEX* AND *ATTA*

The fungus-growing ants with the most populous colonies and with workers of the largest size are the leaf-cutters *Acromyrmex* and *Atta*. Two other genera, *Sericomyrmex* and *Trachymyrmex*, are minor leaf-cutters. The two principal genera are distributed from 44° south latitude in Argentina to southern California and east to Louisiana. Throughout this vast area these ants are often the dominant animals locally. In Brazil they are considered the chief animal pest to agriculture and stock-raising and are the target for disseminating insecticides.

The physical effects on the environment stem from their nests. Some *Atta* nests occupy a volume of soil equivalent to that of a large room. Some species prepare a chamber which they use for refuse. All leaf-cutter ant nests aerate the soil over a considerable area.

The effects on other animals are varied. They serve as a food source for ant-eaters, lizards, toads and birds. In South America snakes frequent their nests and a recent Uruguayan study states that the mound nests are used as incubators for snake eggs. A host of arthropod species are known only from their nests.

They exert their greatest ecological effect on plants. Superficially they appear harmful because of their cutting of leaves of economic plants encouraged by man's monoculture. In nature they forage widely and are an important agent in reducing exuberant plant growth. Even though several species cut only grass and appear to be direct competitors of cattle the grass continues to grow.

Mapping and conservation of their nests is strongly urged in all biological reserves and a complete assessment of their ecological role should be undertaken before they are exterminated over large areas.

NEAL A. WEBER

Meeting of February 2, 1971

President Lee Herman presided; 19 members and 10 guests were present.

PROGRAM. **Brood Ten of the Periodical Cicadas in New Jersey—1902 and 1970.** Dr. John B. Schmitt of the Department of Entomology, Rutgers the State University, spent a great deal of time searching the literature and visiting the locales of this brood. He explained that the Periodical Cicada is endemic to the United States but is only found east of the Mississippi River. The loud sound made by the males during the mating period seems to serve the purpose of attracting males first which are later followed by females. Of the generations of Brood Ten in this century, those of 1902 and 1970 are of especial interest because of the excellent documentation done by Smith for 1902 in the New Jersey area which provided a parallel for the 1970 survey discussed by Dr. Schmitt. Brood Two which last appeared in 1962 has an entirely different distribution.

The eggs of cicadas are deposited in the terminal branches of trees and Dr. Schmitt showed kodachromes of the slits made by the ovipositing females. After hatching some damage is evident and tree "flagging" can be readily detected. However, the overall damage to the tree in one season is negligible. After the terminal twigs fall to the ground, the nymphs emerge, dig downward and feed on the roots of trees and shrubs for the next 17 years. Brood Ten studied in 1970 should emerge in 1987.

Dr. Schmitt pointed out that there are two major factors that have upset the ecology of the cicada populations: forest fires and suburban land development. The speaker hopes to make a comparative survey of Brood Two which is expected to emerge in 1979. (An abstract follows).

The meeting was adjourned at 9:10 P.M.

Daniel J. Sullivan, S.J., *Sec.*

BROOD X OF THE PERIODICAL CICADAS IN NEW JERSEY, 1902 AND 1970

The last thorough study of the distribution of Brood X of the Periodical Cicadas in New Jersey (*Magicicada* spp.) was made in 1902. Data collected on the distribution of the 1970 emergence indicates a disappearance since 1902 from the following localities: eastern Mercer County, except Princeton; eastern Somerset County; Prospertown-Colliers Mills, Ocean County; Jacobstown-Ellisdale, Burlington County; Cherry Hill Township, Camden County; Salem and Woodstown, Salem County; and Shiloh in Cumberland County. Hitherto-unreported populations were found at Lower Powhatcong, Warren County; Middletown, Monmouth County; and Quinton and Alloway in Salem County. More than 40 populations were found in Hunterdon County, west and south of the South Branch of the Raritan River. Factors in the disappearance of the insect appear to have been the following: destruction of woodlands, forest fires, and urbanization. There was no evidence that pesticides have played any part in the population losses.

J. B. Schmitt

Meeting of February 16, 1971

Vice-president Howard Topoff presided; 15 members and 8 guests were present.

program. **Insect Collecting in Iceland, Colombia and Africa.** Dr. Donald Messersmith of the Department of Entomology, University of Maryland discussed the many unusual circumstances in his collecting of insects in Iceland and Africa. In addition to speaking about insects he also showed many kodachromes of other fauna and the flora of these regions. It was interesting to see the group of Icelandic children who became Dr. Messersmith's eager and productive assistants in collecting insects.

The meeting was adjourned at 9:45 P.M.

Daniel J. Sullivan, S.J., *Sec.*

Meeting of March 2, 1971

President Lee Herman presided; 21 members and 12 guests were present.

program. **Behavior and Neurobiology in Giant Waterbugs.** Dr. Saul Barber, Chairman of the Department of Biology of Lehigh University, Pennsylvania explained that he became interested in the neurobiology of the giant waterbugs while working in the laboratory of Dr. John Pringle of Oxford. He noticed that when he handled them in a certain way the bugs vibrated the anterior part of the abdomen. When he returned to his own laboratory at Lehigh, he concentrated on the muscles that controlled this curious vibration. His

electrophysiological studies have thus far revealed that there are two synchronized muscles which are able to contract and relax with unusual speed.

The meeting was adjourned at 9:35 P.M.

DANIEL J. SULLIVAN, S.J., *Sec.*

Meeting of March 16, 1971

President Lee Herman presided; 17 members and 5 guests were present.

The following individuals were proposed for Active Membership: Mrs. Lucia S. Tomkins, New York; Mr. William Pettit, London, England and Mr. Jeffrey N. Stibick of Papua and New Guinea.

Mr. John J. Doria of Brooklyn, New York was proposed for Student Membership.

PROGRAM. **Prey Capture in Backswimmers** (a film) and **The Natural History of Big Bend National Park, Texas.** Dr. Richard Fredrickson of the Deparment of Biology, St. Joseph's College, Philadelphia began his presentation by showing a short film on backswimmers (*Notonecta*). As the film progressed Dr. Fredrickson commented on the various behavioral patterns that were observed: diving and preening, stridulation and reaction to vibrations in the water. To show that the backswimmers reacted to vibrations, prey dropped into the water was quickly captured and eaten. Pieces of string also served as bait into which the backswimmers inserted their beaks.

The second part of the program was concerned with a three week trip in Big Bend National Park with two students. His kodachromes depicted the various life zones and in addition included some flora and fauna from Rocky Mt. National Park.

The meeting was adjourned at 9:40 P.M.

BETTY WHITE, *Asst. Sec.*